

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier** EPO-TEK 301 Part A
 GHS Product Identifier EPO-TEK 301 Part A
 Chemical Name Not applicable
 Trade name EPO-TEK 301 Part A
 CAS No. Mixture
 EINECS No. Mixture
 REACH Registration No. Not available
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
 Identified use(s)
 Uses advised against Users are recommended to seek further advice.
- 1.3 Details of the supplier of the safety data sheet**
 Company Identification Epoxy Technology, Inc.
 Address 14 Fortune Drive, Billerica MA 01821 USA
 Telephone (978) 667-3805
 E-Mail (competent person) techserv@epotek.com
- 1.4 Emergency telephone number – Chemtel Inc.**
Emergency Phone No. (800) 255-3924 , (813) 248-0585

**SECTION 2: HAZARDS IDENTIFICATION**

- 2.1 Classification of the substance or mixture**
- 2.1.1 Regulation (EC) No. 1272/2008 (CLP) - Acute Toxicity 4, Skin Irritation 3, Eye Irritation 2, Skin Sensitizer 1, (3.1/4, 3.2/3, 3.3/2, 3.4/1)**
- 2.1.2 Directive 67/548/EEC & Directive 1999/45/EC - HARMFUL, IRRITANT**
- 2.2 Label elements**
- 2.2.1 Label elements According to Regulation (EC) No. 1272/2008 (CLP)**
 GHS Product Identifier (EU)
- | | | | |
|----------------------------|---|----------------|----------------|
| Hazard pictogram(s) | | Signal word(s) | WARNING |
| Hazard statement(s) | H316: Causes mild skin irritation.
H317: May cause an allergic skin reaction.
H320: Causes eye irritation.
H332: Harmful if inhaled.
EUH205: Contains epoxy constituents. See information supplied by the manufacturer. | | |
| Precautionary statement(s) | P280: Wear protective gloves/protective clothing/eye protection/face protection.
P302 + P352: IF ON SKIN: Wash with plenty of soap and water.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.
P337 + P313: If eye irritation persists: Get medical advice/attention.
P501: Dispose of contents/container to: Send to a licensed recycler, reclaimer or incinerator. | | |
- 2.2.2 Label elements According to Directive 67/548/EEC & Directive 1999/45/EC**
- | | |
|----------------|--|
| Hazard Symbol | |
| Risk Phrases | R20/21: Harmful by inhalation and in contact with skin.
R36/38: Irritating to eyes and skin.
R43: May cause sensitization by skin contact. |
| Safety Phrases | S2: Keep out of the reach of children.
S24/25: Avoid contact with skin and eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28: After contact with skin, wash immediately with plenty of soap and water.
S37/39: Wear suitable gloves and eye/face protection.
S56: Dispose of this material and its container to hazardous or special waste collection point. |

2.3 Other hazards **GHS Classification (USA): Hazardous under OSHA Hazard Communication Standard — DANGER - Irritant (Eyes, Skin), Harmful if inhaled. HMIS: Health-2, Flammability-1, Reactivity – 0**





WHMIS Classification (Canada): Hazardous under WHMIS, Class D2B – Material Causing Other Toxic Effects (Irritation)





2.4 Additional Information None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

EC Classification No. 1272/2008/EC

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard pictogram(s) and Hazard statement(s)
Reactive Diluent	20-35	Proprietary	Proprietary	NA	 3.1/4, 3.2/2, 3.3/2, 3.4/1, H312, H315, H317, H319, H332, EUH205
Bisphenol A Diglycidyl Ether Resin	65-85%	25085-99-8	500-033-5	NA	 3.2/3, 3.4/1, 3.3/2B H316, H317, H320

EC Classification No. 67/548/EEC

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard pictogram(s) and Risk (R) Phras(es)
Reactive Diluent	20-35	Proprietary	Proprietary	NA	 Xn, R20/21, R36/38, R43
Bisphenol A Diglycidyl Ether Resin	65-85%	25085-99-8	500-033-5	NA	 Xi, R36, R38, R43

3.3 Additional Information

- For full text of H phrases see section 16. For full text of R phrases see section 16. Non-Hazardous ingredients are not listed and make up the balance of the product.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Harmful if inhaled. Remove patient from exposure. Keep patient at rest and give oxygen if breathing difficult. If symptoms develop, obtain medical attention.
Skin Contact	Causes skin irritation. May cause an allergic skin reaction. Remove contaminated clothing immediately and drench affected skin with plenty of water, then wash with soap and water. If irritation (redness, rash, blistering) develops, get medical attention.
Eye Contact	Causes serious eye irritation. Remove any contact lenses. Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.
Ingestion	If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting. Make victim drink plenty of water. Get immediate medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Acute: Causes serious eye irritation. Causes skin irritation. Allergic contact dermatitis.

Delayed and chronic effects: Allergic eczema.

4.3 Indication of the immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Combustible but not readily ignited. Acrid smoke. Flash Point > 110°C / 230°F.

- 5.1 Extinguishing media**
 Suitable Extinguishing Media Extinguish preferably with dry chemical, foam or water spray.
 Unsuitable Extinguishing Media None known.
- 5.2 Special hazards arising from the substance or mixture** A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.
- 5.3 Advice for fire-fighters** Extinguish preferably with dry chemical, foam or water spray.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures** Ensure full personal protection (including respiratory protection) during removal of spillages.
- 6.2 Environmental Precautions** Ventilation recommended.
- 6.3 Methods and material for containment and cleaning up** Adsorb spillages onto sand, earth or any suitable adsorbent material. Transfer to a lidded container for disposal or recovery.
- 6.4 Reference to other sections** See Also Section 7, 8, 10, 13.
- 6.5 Additional Information** None

SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling** Avoid ingestion. Use only in well-ventilated areas. Avoid inhalation of high concentrations of vapors. Keep away from oxidizing agents. Keep away from fire, sparks and heated surfaces - no smoking.
- 7.2 Conditions for safe storage, including any incompatibilities** Protect from sunlight. Store in a well-ventilated place. Do not use or store near heat or open flame. Do not store and transport with oxidizers etc.
- Storage Temperature Ambient.
 Storage Life Not available
 Incompatible materials Oxidizing agents
- 7.3 Specific end use(s)** Consult the supplier.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note:
No occupational exposure limits have been established for this product or any listed components.						

8.1.2 Biological limit value





Limit value type (country of origin)	SUBSTANCE.	CAS No.	Biological limit value	Note:
USA	None	None	None	None

8.1.3 PNECs and DNELs

DNEL	Oral	Inhalation	Dermal
Industry - Long Term – Local effects	NA	NA	NA
Industry - Long Term - Systemic effects	NA	NA	NA
Industry - Short term - Local effects	NA	NA	NA

Industry - Short term - Systemic effects	NA	NA	NA
Professional - Long Term - Local effects	NA	NA	NA
Professional - Long Term – Systemic effects	NA	NA	NA
Professional - Short term - Local effects	NA	NA	NA
Professional - Short term - Systemic effects	NA	NA	NA
Consumer - Long Term - Local effects	NA	NA	NA
Consumer - Long Term - Systemic effects	NA	NA	NA
Consumer - Short term - Local effects	NA	NA	NA
Consumer - Short term - Systemic effects	NA	NA	NA
PNEC			
Aquatic Compartment	Not available		
Terrestrial Compartment	Not available		
Atmospheric Compartment	Not available		

8.2.2 Personal protection equipment

	Respirators	Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely.
	Eye Protection	Safety glasses.
	Gloves	Wear protective gloves.
	Body protection	Wear suitable protective clothing and gloves. Wear chemical resistant apron.
	Engineering Controls	Use adequate ventilation and/or engineering controls in high temperature processing to prevent exposure to vapors.
	Other	Remove contaminated, saturated clothing immediately. Contaminated clothing should be thoroughly cleaned.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid.	Color	Clear
Odor	Mild / Slight	Odor Threshold (ppm)	Not available
Melting Point (°C) / Freezing Point (°C)	Not available	Boiling point/boiling range (°C):	Not available
Flash Point (°C)	> 230°F /110°C	Explosive limit ranges	Not available
Auto Ignition Temperature (°C)	Not available	Decomposition Temperature (°C)	Not available
Explosive properties	Not available	Oxidizing properties	Not available
Flammability (solid, gas)	Not available	pH (Value)	Not available
Evaporation rate	< Butyl Acetate	Vapor Pressure (mm Hg)	Not available
Vapor Density (Air=1)	Not available	Density (g/ml)	Not available
Solubility (Water)	Insoluble in water.	Solubility (Other)	Not available
Partition Coefficient (n-Octanol/water)	Not available	Viscosity (mPa.s)	Not available

9.2 Other information Volatile Organic Chemical (VOC) Content – Not available.

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity

Slight.

10.2 Chemical stability

Stable under normal conditions.

- 10.3 Possibility of hazardous reactions** Can react violently if in contact with - Oxidizing agents, Acids, Alkalis.
- 10.4 Conditions to avoid** Avoid contact with heat and ignition sources.
- 10.5 Incompatible materials** Oxidizing agents, Acids, Alkalis.
- 10.6 Hazardous Decomposition Product(s)** Carbon monoxide, carbon dioxide, and other organic compounds.

SECTION 11: TOXICOLOGICAL INFORMATION

SUBSTANCE.	CAS No.	LD ₅₀ (Oral, Rat)	LC ₅₀ (Inhalation, Rat)	LD50 (Dermal, Rat)
Reactive Diluent	Proprietary	1134 mg/kg	Not established	1130 mg/kg (Rabbit)
Bisphenol A Diglycidyl Ether Resin	25085-99-8	>15,000 mg/kg	Not established	23,000 mg/kg (Rabbit)

11.1 Information on toxicological effects

11.1.2 Mixtures

Acute toxicity	Harmful if inhaled.
Irritation	Causes serious eye irritation. Causes skin irritation. May cause respiratory irritation.
Corrosivity	Not to be expected.
Sensitization	May produce an allergic reaction.
Repeated dose toxicity	Similar to single exposures; allergic dermatitis may develop.
Carcinogenicity	No data.
Mutagenicity	No data.
Toxicity for reproduction	No data.

11.2 Other information None

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	No data
12.2 Persistence and degradability	No data
12.3 Bioaccumulative potential	No data
12.4 Mobility in soil	No data
12.5 Results of PBT and vPvB assessment	No data
12.6 Other adverse effects	No data

SECTION 13: DISPOSAL CONSIDERATIONS

- 13.1 Waste treatment methods** Disposal should be in accordance with local, state or national legislation. Containers must not be punctured or destroyed by burning, even when empty.
- 13.2 Additional Information** None

SECTION 14: TRANSPORT INFORMATION
Land transport (ADR/RID) (b)(c)(d)

UN number	UN3082
	Environmentally
Proper Shipping Name	Hazardous Substance, Liquid, n.o.s.
Transport hazard class(es)	9
Packing Group	III
Hazard label(s)	Miscellaneous
Environmental hazards	Marine Pollutant
Special precautions for user	None

Land transport (Within USA) (c)(d)

UN number	
Proper Shipping Name	Not classified as dangerous for transport.
Transport hazard class(es)	None
Packing Group	None
Hazard label(s)	None
Environmental hazards	None
Special precautions for user	None

Sea transport (IMDG) (b)(c)

UN number	UN3082
	Environmentally
Proper Shipping Name	Hazardous Substance, Liquid, n.o.s.
Transport hazard class(es)	9
Packing Group	III
Marine Pollutant	Yes
Special precautions for user	None

Air transport (ICAO/IATA) (c) (d)

UN number	
Proper Shipping Name	Not classified as dangerous for transport.
Transport hazard class(es)	None
Packing Group	None
Environmental hazards	None
Special precautions for user	None

(b)– Full proper shipping name: *Environmentally Hazardous Substance, Liquid, n.o.s. (Bisphenol A Diglycidyl Ether Resin)*

(c)– *Consult with transport provider.*

(d)– *Check relevant regulations for Special Provisions.*

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code
SECTION 15: REGULATORY INFORMATION
15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**15.1.1 EU regulations**

Authorizations and/or restrictions on use	Consult the supplier.
European Union (EINECS/ELINCS)	All chemicals listed.
German WGK number	Not Applicable.

15.1.2 National regulations**USA**

TSCA (Toxic Substance Control Act)	All chemicals listed.
SARA 311/312 - Hazard Categories	Acute Health
SARA 302 - Extremely Hazardous Substances	Listed. - None
SARA 313 - Toxic Chemicals	Contains: None
CERCLA (Comprehensive Environmental Response Compensation and Liability Act)	Listed. - None
CAA (Clean Air Act 1990)	Listed. – None
CWA (Clean Water Act)	Listed. - None
State Right to Know Lists	Listed. –MA, MN, NJ, PA, and RI.

Proposition 65 (California)

Listed. - None

Canada

WHMIS Classification

Class D2B – Material Causing Other Toxic Effects (Irritation)

Canada (DSL/NDSL)

Listed. - DSL

Canada Ingredient Disclosure List (CIDL)

Listed as required.

15.2 Chemical Safety Assessment

Harmful / Irritant (Skin, Eye), Skin Sensitizer

15.3 Label elements (EU)

Label as Harmful, Irritant under 1999/45/EC, 1907/2006/EC, and 1272/2008/EC. See Section 2 for full label requirements.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

LEGEND

ACGIH	American Conference of Governmental Industrial Hygienists	NA	not applicable, not available
AICS	Australian Inventory of Chemical Substances	NIOSH	National Institute for Occupational Safety and Health
ANSI	American National Standards Institute	ND	not determined
atm	atmosphere (pressure unit)	NFPA	National Fire Prevention Association
BOD	biological oxygen demand	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OC	open cup
CC	closed cup	OSHA	Occupational Safety and Health Administration
CDTA	Chemical Drug and Trafficking Act	Part	partition
COC	Cleveland Open Cup	PEL	permissible exposure limits
COD	chemical oxygen demand	ppb	parts per billion
coeff.	coefficient	PPE	personal protective equipment
CFR	Code of Federal Regulations	ppm	parts per million
CPR	cardio-pulmonary resuscitation	psi	pounds per square inch
DEA	Drug Enforcement Agency	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	RQ	Reportable quantity
DSCL	Dangerous Substances Classification and Labeling	RTK	Right to Know
EEC	European Economic Community	SARA	Superfund Amendments and Reauthorization Act
FDA	Food and Drug Administration	STEL	short-term exposure limit
HMIS	Hazardous Materials Information System	SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons (Australia)
IARC	International Agency for Research on Cancer	TCC	Tagliabue Closed Cup
IDLH	immediate danger to life or health	TDG	Transportation of Dangerous Goods
kg	kilogram	TPQ	threshold planning quantity
L	liter	TQ	threshold quantity
LC50	median lethal concentration	TSCA	Toxic Substances Control Act
LD50	median lethal dose	TWA	time-weighted average
LEL	lower explosive limit	UEL	upper explosive limit
mg	milligram	WES	Workplace Exposure Standard (New Zealand)
mL	milliliter	WHMIS	Workplace Hazardous Material Information System

References: RTECS, CAS Registry, EINECS/ESIS, *Casarett & Doull's Toxicology*, *Goldfrank's Toxicological Emergencies*, Manufacturer Information

Risk Phrases and Safety Phrases

R20/21: Harmful by inhalation and in contact with skin.

R36/38: Irritating to eyes and skin.

R43: May cause sensitization by skin contact.

S2: Keep out of the reach of children.

S24/25: Avoid contact with skin and eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28: After contact with skin, wash immediately with plenty of soap and water.

S37/39: Wear suitable gloves and eye/face protection.

S56: Dispose of this material and its container to hazardous or special waste collection point.

Hazard statement(s) and Precautionary statement(s)

H312: Harmful in contact with skin.

H315: Causes skin irritation.

H316: Causes mild skin irritation.

H317: May cause an allergic skin reaction.

H319: Causes serious eye irritation.

H320: Causes eye irritation.

H332: Harmful if inhaled.

EUH205: Contains epoxy constituents. See information supplied by the manufacturer.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P302 + P352: IF ON SKIN: Wash with plenty of soap and water.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P333 + P313: If skin irritation or rash occurs: Get medical advice/attention.

P337 + P313: If eye irritation persists: Get medical advice/attention.

P501: Dispose of contents/container to: Send to a licensed recycler, reclaimer or incinerator.

Training advice: None



Additional Information: None

Information contained in this publication or as otherwise supplied to Users is believed to be accurate and is given in good faith, but it is for the Users to satisfy themselves of the suitability of the product for their own particular purpose. Epoxy Technology, Inc. gives no warranty as to the fitness of the product for any particular purpose and any implied warranty or condition (statutory or otherwise) is excluded except to the extent that exclusion is prevented by law. Epoxy Technology, Inc. accepts no liability for loss or damage (other than that arising from death or personal injury caused by defective product, if proved), resulting from reliance on this information. Freedom under Patents, Copyright and Designs cannot be assumed.

SECTION 1: IDENTIFICATION OF THE SUBSTANCE/MIXTURE AND OF THE COMPANY/UNDERTAKING

- 1.1 Product identifier** EPO-TEK 301 Part B
 GHS Product Identifier EPO-TEK 301 Part B
 Chemical Name Not applicable
 Trade name EPO-TEK 301 Part B
 CAS No. Mixture
 EINECS No. Mixture
 REACH Registration No. Not available
- 1.2 Relevant identified uses of the substance or mixture and uses advised against**
 Identified use(s)
 Uses advised against Users are recommended to seek further advice.
- 1.3 Details of the supplier of the safety data sheet**
 Company Identification Epoxy Technology, Inc.
 Address 14 Fortune Drive, Billerica MA 01821 USA
 Telephone (978) 667-3805
 E-Mail (competent person) techserv@epotek.com
- 1.4 Emergency telephone number – Chemtel Inc.**
Emergency Phone No. (800) 255-3924 , (813) 248-0585

**SECTION 2: HAZARDS IDENTIFICATION**

- 2.1 Classification of the substance or mixture**
- 2.1.1 Regulation (EC) No. 1272/2008 (CLP) - Acute Toxicity 4, Skin Corrosion 1B, Eye Damage 1B, Skin Sensitization 1 (3.1/4, 3.2/1B, 3.4/1)**
- 2.1.2 Directive 67/548/EEC & Directive 1999/45/EC - CORROSIVE**
- 2.2 Label elements**
- 2.2.1 Label elements According to Regulation (EC) No. 1272/2008 (CLP)**
 GHS Product Identifier (EU)
- | | | | |
|----------------------------|---|----------------|---------------|
| Hazard pictogram(s) |  | Signal word(s) | DANGER |
| Hazard statement(s) | H302: Harmful if swallowed.
H314: Causes severe skin burns and eye damage.
H317: May cause an allergic skin reaction.
H412: Harmful to aquatic life with long lasting effects. | | |
| Precautionary statement(s) | P280: Wear protective gloves/protective clothing/eye protection/face protection.
P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.
P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.
P305: IF IN EYES: Get immediate medical attention.
P310: Immediately call a POISON CENTER or doctor/physician. | | |
- 2.2.2 Label elements According to Directive 67/548/EEC & Directive 1999/45/EC**
- | | |
|----------------|---|
| Hazard Symbol |  |
| Risk Phrases | R22: Harmful if swallowed.
R34: Causes burns.
R43: May cause sensitization by skin contact.
R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment. |
| Safety Phrases | S2: Keep out of the reach of children.
S24/25: Avoid contact with skin and eyes.
S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.
S28: After contact with skin, wash immediately with plenty of soap and water.
S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.
S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible). |

2.3 Other hazards **GHS Classification (USA): Hazardous under OSHA Hazard Communication Standard – Corrosive (Eyes, Skin), Harmful by Ingestion, Skin sensitizer. HMIS: Health-3, Flammability-2 Reactivity – 0**




WHMIS Classification (Canada): Class E – Corrosive Material Class D2A- Very Toxic Material Having Other Effects.




2.4 Additional Information None

SECTION 3: COMPOSITION/INFORMATION ON INGREDIENTS

EC Classification No. 1272/2008/EC

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard pictogram(s) and Hazard statement(s)
Trimethylhexane-1,6-diamine	> 75%	25620-58-0	NE	NA	 3.1/4, 3.2/1B, 3.4/1, 4.1/3 H302, H314, H317, H412

EC Classification No. 67/548/EEC

Hazardous ingredient(s)	%W/W	CAS No.	EC No.	REACH Registration No.	Hazard pictogram(s) and Risk (R) Phras(es)
Trimethylhexane-1,6-diamine	> 75%	25620-58-0	NE	NA	 C, Xn, Xi: R22, R34, R43, R52/53

3.3 Additional Information

- For full text of H phrases see section 16. For full text of R phrases see section 16. Non-Hazardous ingredients are not listed and make up the balance of the product.

SECTION 4: FIRST AID MEASURES

4.1 Description of first aid measures

Inhalation	Remove patient from exposure. Keep patient at rest and give oxygen if breathing difficult. If symptoms develop, obtain medical attention.
Skin Contact	Causes burns. Remove contaminated clothing immediately and drench affected skin with plenty of water, then wash with soap and water. If irritation (redness, rash, blistering) develops, get medical attention.
Eye Contact	May cause corneal injury. May cause corneal damage. Remove any contact lenses. Irrigate with eyewash solution or clean water, holding the eyelids apart, for at least 15 minutes. Obtain immediate medical attention.
Ingestion	Harmful if swallowed. Ingestion may cause irritation of the gastrointestinal tract. If swallowed, seek medical advice immediately and show this container or label. Do not induce vomiting. Make victim drink plenty of water. Get immediate medical attention.

4.2 Most important symptoms and effects, both acute and delayed

Acute: Causes burns to skin and eyes. Causes serious eye irritation. May cause corneal injury. Causes skin irritation. Material is irritating and potentially destructive to tissues of the skin, eye, mucous membranes and upper respiratory tract. May cause inflammation and edema, redness, rash, and pain upon contact. Prolonged contact increases chances of tissue damage.

Delayed and chronic effects: Similar to acute effects. May cause corneal damage.

4.3 Indication of the immediate medical attention and special treatment needed

Treat symptomatically.

SECTION 5: FIRE-FIGHTING MEASURES

Combustible but not readily ignited. Acrid smoke. Flash Point > 104°C / 219°F.

- 5.1 Extinguishing media**
 Suitable Extinguishing Media Extinguish preferably with dry chemical, foam or water spray.
 Unsuitable Extinguishing Media None known.
- 5.2 Special hazards arising from the substance or mixture**
 A self contained breathing apparatus and suitable protective clothing should be worn in fire conditions.
- 5.3 Advice for fire-fighters**
 Extinguish preferably with dry chemical, foam or water spray. Launder contaminated protective devices.

SECTION 6: ACCIDENTAL RELEASE MEASURES

- 6.1 Personal precautions, protective equipment and emergency procedures**
 Ensure full personal protection (including respiratory protection) during removal of spillages.
- 6.2 Environmental Precautions**
 Ventilation recommended.
- 6.3 Methods and material for containment and cleaning up**
 Transfer to a lidded container for disposal or recovery.
- 6.4 Reference to other sections**
 See Also Section 7, 8, 10, 13.
- 6.5 Additional Information**
 None

SECTION 7: HANDLING AND STORAGE

- 7.1 Precautions for safe handling**
 Avoid ingestion. Use only in well-ventilated areas. Avoid inhalation of high concentrations of vapors. Keep away from oxidizing agents. Keep away from fire, sparks and heated surfaces - no smoking.
- 7.2 Conditions for safe storage, including any incompatibilities**
 Do not store and transport with oxidizers etc.
- Storage Temperature Ambient.
 Storage Life Not available
 Incompatible materials Oxidizing agents. Can react violently if in contact with acids, alkalis, reducing agents and heavy metals.
- 7.3 Specific end use(s)**
 Consult the supplier.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

8.1 Control parameters

8.1.1 Occupational Exposure Limits

SUBSTANCE.	CAS No.	LTEL (8 hr TWA ppm)	LTEL (8 hr TWA mg/m ³)	STEL (ppm)	STEL (mg/m ³)	Note:
No occupational exposure limits for this product or listed components have been established.						

OELs are not available for non-listed components.

8.1.2 Biological limit value





Limit value type (country of origin)	SUBSTANCE.	CAS No.	Biological limit value	Note:
USA	None	None	None	None

8.1.3 PNECs and DNELs

DNEL	Oral	Inhalation	Dermal
Industry - Long Term – Local effects	NA	NA	NA
Industry - Long Term - Systemic effects	NA	NA	NA
Industry - Short term - Local effects	NA	NA	NA
Industry - Short term - Systemic effects	NA	NA	NA
Professional - Long Term - Local effects	NA	NA	NA
Professional - Long Term – Systemic effects	NA	NA	NA
Professional - Short term - Local effects	NA	NA	NA
Professional - Short term - Systemic effects	NA	NA	NA
Consumer - Long Term - Local effects	NA	NA	NA
Consumer - Long Term - Systemic effects	NA	NA	NA
Consumer - Short term - Local effects	NA	NA	NA
Consumer - Short term - Systemic effects	NA	NA	NA

	PNEC
Aquatic Compartment	Not available
Terrestrial Compartment	Not available
Atmospheric Compartment	Not available

8.2.2 Personal protection equipment

	Respirators	Wear suitable respiratory protective equipment if exposure to levels above the occupational exposure limit is likely.
	Eye Protection	Safety glasses.
	Gloves	Wear protective gloves.
	Body protection	Wear suitable protective clothing and gloves.
	Engineering Controls	Use adequate ventilation and/or engineering controls in high temperature processing to prevent exposure to vapors.
	Other	Remove contaminated, saturated clothing immediately. Contaminated clothing should be thoroughly cleaned.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

9.1 Information on basic physical and chemical properties

Appearance	Liquid	Color	Clear
Odor	Amine	Odor Threshold (ppm)	Not available
Melting Point (°C) / Freezing Point (°C)	Not available	Boiling point/boiling range (°C):	232°C / 450°F
Flash Point (°C)	> 219°F / 104°C	Explosive limit ranges	Not available
Auto Ignition Temperature (°C)	Not available	Decomposition Temperature (°C)	Not available
Explosive properties	Not available	Oxidizing properties	Not available
Flammability (solid, gas)	Combustible	pH (Value)	> 10
Evaporation rate	< Butyl Acetate	Vapor Pressure (mm Hg)	Not available
Vapor Density (Air=1)	> 1	Density (g/ml)	0.867
Solubility (Water)	Practically insoluble.	Solubility (Other)	Not available
Partition Coefficient (n-Octanol/water)	Not available	Viscosity (mPa.s)	Not available
9.2 Other information	Volatile Organic Chemical (VOC) Content – Not available.		

SECTION 10: STABILITY AND REACTIVITY

10.1 Reactivity	Slight
10.2 Chemical stability	Stable under normal conditions.
10.3 Possibility of hazardous reactions	Can react violently if in contact with - Oxidizing agents. Can react violently if in contact with acids, alkalis, reducing agents and heavy metals.
10.4 Conditions to avoid	Extreme Heat.
10.5 Incompatible materials	Bleaching products and comparable oxidizers. Can react violently if in contact with acids, alkalis, reducing agents and heavy metals.
10.6 Hazardous Decomposition Product(s)	Carbon monoxide, carbon dioxide, nitrogen oxides. Thermal decomposition will evolve toxic, irritant and flammable vapors.

SECTION 11: TOXICOLOGICAL INFORMATION

SUBSTANCE.	CAS No.	LD ₅₀ (Oral, Rat)	LC ₅₀ (Inhalation, Rat)	LD50 (Dermal, Rat)
Trimethylhexane-1,6-diamine	25620-58-0	910 mg/kg	Not established	2980 mg/kg (Rabbit)

11.1	Information on toxicological effects	
11.1.2	Mixtures	
	Acute toxicity	Harmful if swallowed. Ingestion may cause irritation of the gastrointestinal tract. Causes burns.
	Irritation	May cause burns to skin and eyes. May cause allergic skin reaction.
	Corrosivity	May cause burns to skin and eyes.
	Repeated dose toxicity	Expected to be similar to single exposures.
	Carcinogenicity	No data.
	Mutagenicity	No data.
	Toxicity for reproduction	No data.
11.2	Other information	None

SECTION 12: ECOLOGICAL INFORMATION

12.1 Toxicity	Toxicity to fish LC50 - <i>Leuciscus idus</i> (Golden orfe) - 174.0 mg/l - 48.0 h Toxicity to daphnia and other aquatic invertebrates. EC50 - <i>Daphnia magna</i> (Water flea) - 31.5 mg/l - 24 h Toxicity to algae EC50 - <i>Desmodesmus subspicatus</i> (green algae) - 29.5 mg/l - 72 h
12.2 Persistence and degradability	Biodegradable.
12.3 Bioaccumulative potential	None.
12.4 Mobility in soil	The product has high mobility in sediment.
12.5 Results of PBT and vPvB assessment	No data.
12.6 Other adverse effects	No data.

SECTION 13: DISPOSAL CONSIDERATIONS

13.1 Waste treatment methods	Disposal should be in accordance with local, state or national legislation. Containers must not be punctured or destroyed by burning, even when empty.
13.2 Additional Information	None

SECTION 14: TRANSPORT INFORMATION

Land transport (ADR/RID) (c)(d)

UN number	2327
Proper Shipping Name	Trimethylhexamethylenediamines
Transport hazard class(es)	8
Packing Group	III
Hazard label(s)	CORROSIVE
Environmental hazards	None
Special precautions for user	None

Land transport (USA/Canada) (c)(d)

UN number	2327
Proper Shipping Name	Trimethylhexamethylenediamines
Transport hazard class(es)	8
Packing Group	III
Hazard label(s)	CORROSIVE
Environmental hazards	None
Special precautions for user	None

Sea transport (IMDG) (c)(d)

UN number	2327
Proper Shipping Name	Trimethylhexamethylenediamines
Transport hazard class(es)	8
Packing Group	III
Marine Pollutant	CORROSIVE
Special precautions for user	None

Air transport (ICAO/IATA) (c)(d)

UN number	2327
Proper Shipping Name	Trimethylhexamethylenediamines
Transport hazard class(es)	8
Packing Group	III
Environmental hazards	CORROSIVE
Special precautions for user	None

(c)– Consult with transport provider. Limited Quantities provision may apply.

(d)– Check relevant regulations for Special Provisions.

Transport in bulk according to Annex II of MARPOL73/78 and the IBC Code

SECTION 15: REGULATORY INFORMATION

15.1 Safety, health and environmental regulations/legislation specific for the substance or mixture**15.1.1 EU regulations**

Authorizations and/or restrictions on use	Consult the supplier.
European Union (EINECS/ELINCS)	All chemicals listed.
German WGK number	2

15.1.2 National regulations

USA

TSCA (Toxic Substance Control Act)	All chemicals listed.
SARA 311/312 - Hazard Categories	Acute Health
SARA 302 - Extremely Hazardous Substances	Listed. - None
SARA 313 - Toxic Chemicals	Listed. - None
CERCLA (Comprehensive Environmental Response Compensation and Liability Act)	Listed. - None
CAA (Clean Air Act 1990)	Listed. - None
CWA (Clean Water Act)	Listed. - None
State Right to Know Lists	CAS# 25620-58-0 listed in NJ, PA.
Proposition 65 (California)	Listed. - None

Canada

WHMIS Classification	Class E - Corrosive Material Class D2A - Very toxic material having other effects.
Canada (DSL/NDSL)	Listed. - DSL
Canada Ingredient Disclosure List (CIDL)	Listed.

15.2 Chemical Safety Assessment

Corrosive (Skin, Eye), Harmful (Respiratory, Ingestion) Environmental Toxin (Fish & Algae).

15.3 Label elements (EU)



Label as Corrosive, under 1272/2008/EC, 67/548/EC and 1999/45/EC. See Section 2 for full label requirements.

SECTION 16: OTHER INFORMATION

The following sections contain revisions or new statements: 1-16.

LEGEND

ACGIH	American Conference of Governmental Industrial Hygienists	NA	not applicable, not available
AICS	Australian Inventory of Chemical Substances	NIOSH	National Institute for Occupational Safety and Health
ANSI	American National Standards Institute	ND	not determined
atm	atmosphere (pressure unit)	NFPA	National Fire Prevention Association
BOD	biological oxygen demand	NTP	National Toxicology Program
CAS	Chemical Abstracts Service	OC	open cup
CC	closed cup	OSHA	Occupational Safety and Health Administration
CDTA	Chemical Drug and Trafficking Act	Part	partition
COC	Cleveland Open Cup	PEL	permissible exposure limits
COD	chemical oxygen demand	ppb	parts per billion
coeff.	coefficient	PPE	personal protective equipment
CFR	Code of Federal Regulations	ppm	parts per million
CPR	cardio-pulmonary resuscitation	psi	pounds per square inch
DEA	Drug Enforcement Agency	RCRA	Resource Conservation and Recovery Act
DOT	Department of Transportation	RQ	Reportable quantity
DSCL	Dangerous Substances Classification and Labeling	RTK	Right to Know
EEC	European Economic Community	SARA	Superfund Amendments and Reauthorization Act
FDA	Food and Drug Administration	STEL	short-term exposure limit
HMIS	Hazardous Materials Information System	SUSDP	Standard for the Uniform Scheduling of Drugs and Poisons (Australia)
IARC	International Agency for Research on Cancer	TCC	Tagliabue Closed Cup
IDLH	immediate danger to life or health	TDG	Transportation of Dangerous Goods
kg	kilogram	TPQ	threshold planning quantity
L	liter	TQ	threshold quantity
LC50	median lethal concentration	TSCA	Toxic Substances Control Act
LD50	median lethal dose	TWA	time-weighted average
LEL	lower explosive limit	UEL	upper explosive limit
mg	milligram	WES	Workplace Exposure Standard (New Zealand)
mL	milliliter	WHMIS	Workplace Hazardous Material Information System

References: RTECS, CAS Registry, EINECS/ESIS, *Casarett & Doull's Toxicology*, *Goldfrank's Toxicological Emergencies*, Manufacturer Information

Risk Phrases and Safety Phrases

R22: Harmful if swallowed.

R34: Causes burns.

R43: May cause sensitization by skin contact.

R52/53: Harmful to aquatic organisms, may cause long-term adverse effects in the aquatic environment.

S2: Keep out of the reach of children.

S24/25: Avoid contact with skin and eyes.

S26: In case of contact with eyes, rinse immediately with plenty of water and seek medical advice.

S28: After contact with skin, wash immediately with plenty of soap and water.

S36/37/39: Wear suitable protective clothing, gloves and eye/face protection.

S45: In case of accident or if you feel unwell, seek medical advice immediately (show the label where possible).

Hazard statement(s) and Precautionary statement(s)

Hazard statement(s) and Precautionary statement(s)

H302: Harmful if swallowed.

H314: Causes severe skin burns and eye damage.

H317: May cause an allergic skin reaction.

H412 Harmful to aquatic life with long lasting effects.

P280: Wear protective gloves/protective clothing/eye protection/face protection.

P303 + P361 + P353: IF ON SKIN (or hair): Remove/Take off immediately all contaminated clothing. Rinse skin with water/shower.

P305 + P351 + P338: IF IN EYES: Rinse cautiously with water for several minutes. Remove contact lenses, if present and easy to do. Continue rinsing.

P305: IF IN EYES: Get immediate medical attention.

P310: Immediately call a POISON CENTER or doctor/physician.

Training advice: None

Additional Information: None

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